

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/885,069

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-59 (canceled).

60. (currently amended): A radiation image read-out method, comprising the steps of:

i) linearly irradiating stimulating rays, which have been produced by a line light source, onto an area of a front surface of a stimulable phosphor sheet, on which a radiation image has been stored, the stimulating rays causing the stimulable phosphor sheet to emit light in proportion to an amount of energy stored thereon during its exposure to radiation,

ii) receiving light, which is emitted from the linear area of the front surface of the stimulable phosphor sheet exposed to the linear stimulating rays ~~or from a linear area of a back surface of the stimulable phosphor sheet corresponding to said linear area of the front surface of the stimulable phosphor sheet~~, with a line sensor comprising a plurality of photoelectric conversion devices arrayed along a length direction of said linear area of the stimulable phosphor sheet, the received light being subjected to photoelectric conversion performed by said line sensor,

iii) moving the stimulable phosphor sheet with respect to said line light source and said line sensor and in a direction different from a length direction of said linear area of the stimulable phosphor sheet, and

iv) successively reading outputs of said photoelectric conversion devices of said line sensor in accordance with said movement, conversion devices constituting said area sensor.

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Claims 61-65 (canceled).

66. (currently amended): A radiation image read-out method, comprising the steps of:

i) irradiating stimulating rays, which have been produced by a surface light source, onto a front surface of a stimulable phosphor sheet, on which a radiation image has been stored, the stimulating rays causing the stimulable phosphor sheet to emit light in proportion to an amount of energy stored thereon during its exposure to radiation,

ii) receiving light, which is emitted from the area of the front surface of the stimulable phosphor sheet exposed to the stimulating rays ~~or from an area of a back surface of the stimulable phosphor sheet corresponding to said area of the front surface of the stimulable phosphor sheet~~, with an area sensor comprising a plurality of arrayed photoelectric conversion devices, the received light being subjected to photoelectric conversion performed by said area sensor, and

iii) reading outputs of said photoelectric conversion devices constituting said area sensor, wherein said surface light source is constituted of an organic EL device.

Claims 67-125 (canceled).

126. (currently amended): A radiation image read-out apparatus, comprising:

i) a line light source for linearly irradiating stimulating rays onto an area of a front surface of a stimulable phosphor sheet, on which a radiation image has been stored, the stimulating rays causing the stimulable phosphor sheet to emit light in proportion to an amount of energy stored thereon during its exposure to radiation,

ii) a line sensor for receiving light, which is emitted from the linear area of the front surface of the stimulable phosphor sheet exposed to the linear stimulating rays ~~or from a linear~~

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~~area of a back surface of the stimulable phosphor sheet corresponding to said linear area of the front surface of the stimulable phosphor sheet~~, and performing photoelectric conversion of the received light, said line sensor comprising a plurality of photoelectric conversion devices arrayed along a length direction of said linear area of the stimulable phosphor sheet,

iii) scanning means for moving the stimulable phosphor sheet with respect to said line light source and said line sensor and in a direction different from a length direction of said linear area of the stimulable phosphor sheet, and

iv) reading means for successively reading outputs of said photoelectric conversion devices of said line sensor in accordance with said movement,

wherein said line light source is constituted of an organic EL device.

Claims 127-131 (canceled).

132. (currently amended): A radiation image read-out apparatus, comprising:

i) a surface light source for irradiating stimulating rays onto a front surface of a stimulable phosphor sheet, on which a radiation image has been stored, the stimulating rays causing the stimulable phosphor sheet to emit light in proportion to an amount of energy stored thereon during its exposure to radiation,

ii) an area sensor for receiving light, which is emitted from the area of the front surface of the stimulable phosphor sheet exposed to the stimulating rays ~~or from an area of a back surface of the stimulable phosphor sheet corresponding to said area of the front surface of the stimulable phosphor sheet~~, and performing photoelectric conversion of the received light, said area sensor comprising a plurality of arrayed photoelectric conversion devices, and

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- iii) reading means for reading outputs of said photoelectric conversion devices constituting said area sensor,
wherein said surface light source is constituted of an organic EL device.
133. (previously presented): The method of claim 60, further comprising the step of monitoring an intensity of the stimulating rays emitted from the organic EL device.
134. (previously presented): The method of claim 133, further comprising the step of modulating the emission intensity of the organic EL device in accordance with a result of the monitoring step.
135. (previously presented): The method of claim 134, wherein the modulating step is performed such that the emission intensity of the organic EL device becomes equal to a predetermined value.
136. (previously presented): The method of claim 66, further comprising the step of monitoring an intensity of the stimulating rays emitted from the organic EL device.
137. (previously presented): The method of claim 136, further comprising the step of modulating the emission intensity of the organic EL device in accordance with a result of the monitoring step.
138. (previously presented): The method of claim 137, wherein the modulating step is performed such that the emission intensity of the organic EL device becomes equal to a predetermined value.
139. (previously presented): The apparatus of claim 126, further comprising a monitoring means for monitoring an intensity of the stimulating rays emitted from the organic EL device.

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140. (previously presented): The apparatus of claim 139, further comprising a modulating means for modulating the emission intensity of the organic EL device in accordance with the monitored intensity.

141. (previously presented): The apparatus of claim 140, wherein the emission intensity of the organic EL device is modulated to be equal to a predetermined value.

142. (previously presented): The apparatus of claim 132, further comprising a monitoring means for monitoring an intensity of the stimulating rays emitted from the organic EL device.

143. (previously presented): The apparatus of claim 142, further comprising a modulating means for modulating the emission intensity of the organic EL device in accordance with the monitored intensity.

144. (previously presented): The apparatus of claim 143, wherein the emission intensity of the organic EL device is modulated to be equal to a predetermined value.

145. (previously presented): The method of claim 60, further comprising reflecting the stimulating rays toward a surface of the stimulable phosphor sheet with a mirror, and wherein light emitted from the stimulable phosphor sheet is transmitted through the mirror to provide optical path overlap between emitted light and light output from the light source.

146. (previously presented): The method of claim 66, further comprising reflecting the stimulating rays toward a surface of the stimulable phosphor sheet with a mirror, and wherein light emitted from the stimulable phosphor sheet is transmitted through the mirror to provide optical path overlap between emitted light and light output from the light source.

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147. (previously presented): The apparatus of claim 126, further comprising a mirror disposed to direct light from the line light source to a surface of the stimulable phosphor sheet, said mirror transmitting light emitted from the stimulable phosphor sheet, said mirror causing at least partial optical path overlap of the emitted light and light from the light source.

148. (previously presented): The apparatus of claim 132, further comprising a mirror disposed to direct light from the surface light source to a surface of the stimulable phosphor sheet, said mirror transmitting light emitted from the stimulable phosphor sheet, said mirror causing at least partial optical path overlap of the emitted light and light from the light source.

149. (currently amended): The method of claim 60, wherein the stimulable phosphor sheet is permeable to the emitted light and the emitted light is received from the front surface of the the stimulable phosphor sheet and a back surface of the stimulable phosphor sheet.

150. (currently amended): The method of claim 66, wherein the stimulable phosphor sheet is permeable to the emitted light and the emitted light is received from the front surface of the the stimulable phosphor sheet and a back surface of the stimulable phosphor sheet.

151. (currently amended): The apparatus of claim 126, wherein the stimulable phosphor sheet is permeable to the emitted light and the emitted light is received from the front surface of the the stimulable phosphor sheet and a back surface of the stimulable phosphor sheet.

152. (currently amended): The apparatus of claim 132, wherein the stimulable phosphor sheet is permeable to the emitted light and the emitted light is received from the front surface of the the stimulable phosphor sheet and a back surface of the stimulable phosphor sheet.

153. (previously presented): The method of claim 60, wherein the organic EL device comprises a white light emitting device and a red color filter.

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154. (previously presented): The method of claim 66, wherein the organic EL device comprises a white light emitting device and a red color filter.

155. (previously presented): The apparatus of claim 126, wherein the organic EL device comprises a white light emitting device and a red color filter.

156. (previously presented): The apparatus of claim 132, wherein the organic EL device comprises a white light emitting device and a red color filter.

157. (previously presented): The method of claim 60, wherein the organic EL device produces stimulating light rays having a line width of approximately 100 micrometers.

158. (previously presented): The method of claim 66, wherein the organic EL device produces stimulating light rays having a line width of approximately 100 micrometers.

159. (previously presented): The apparatus of claim 126, wherein the organic EL device produces stimulating light rays having a line width of approximately 100 micrometers.

160. (previously presented): The apparatus of claim 132, wherein the organic EL device produces stimulating light rays having a line width of approximately 100 micrometers.